

Joint

Countermine

Operational

Simulation



Use of Advanced Distributed Simulation for Analysis



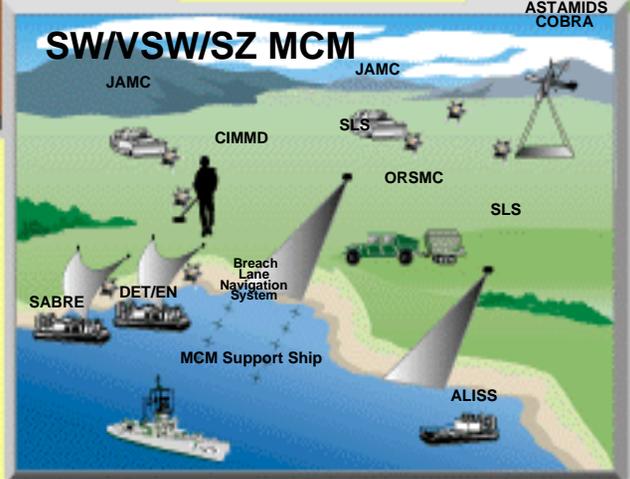
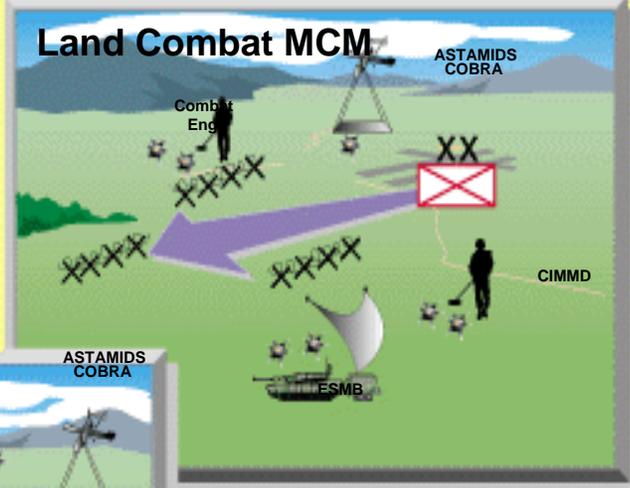
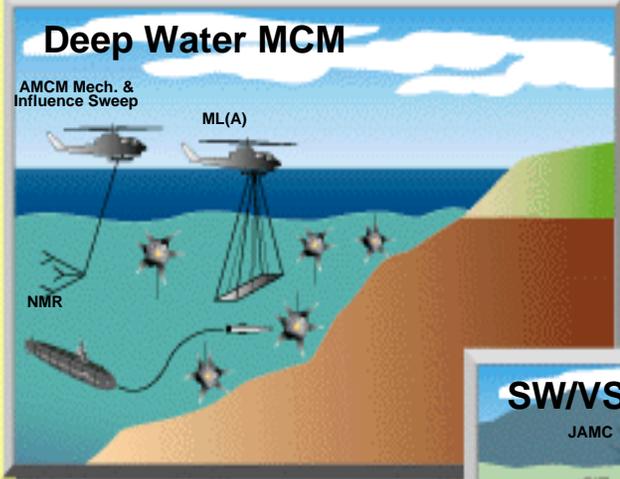
Agenda

- **JCOS Objective Background**
- **VV&A**
- **Analytic Case Comparison**
 - **Army Operations: Heavy Force Breach**
- **Exercise Management and Control**
 - **Naval Operations: Amphibious Assault**
- **After Action Review System**
- **Closing Remarks**



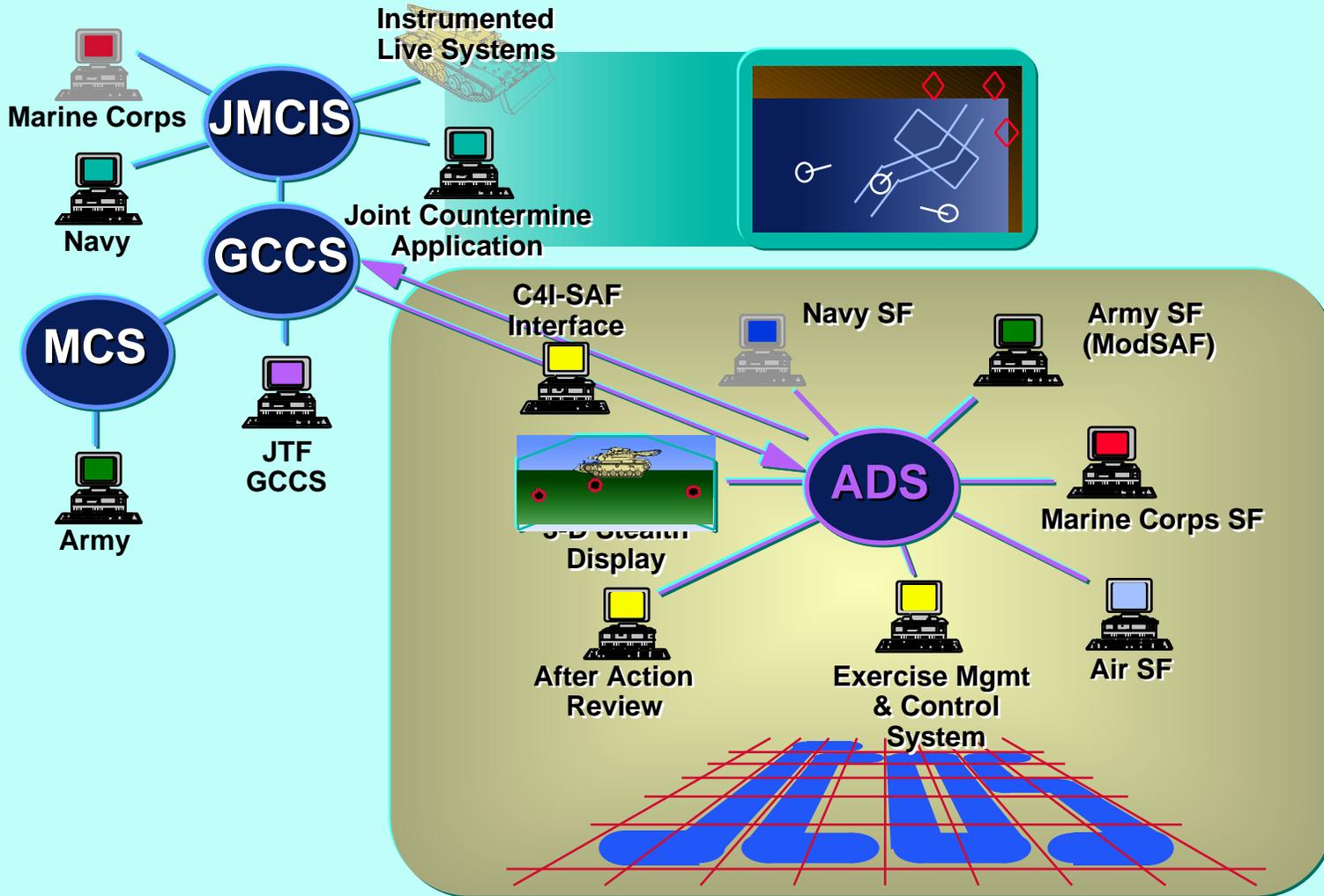
The JCOS Vision

Vision: Seamless transition of countermine capabilities from sea to land operations



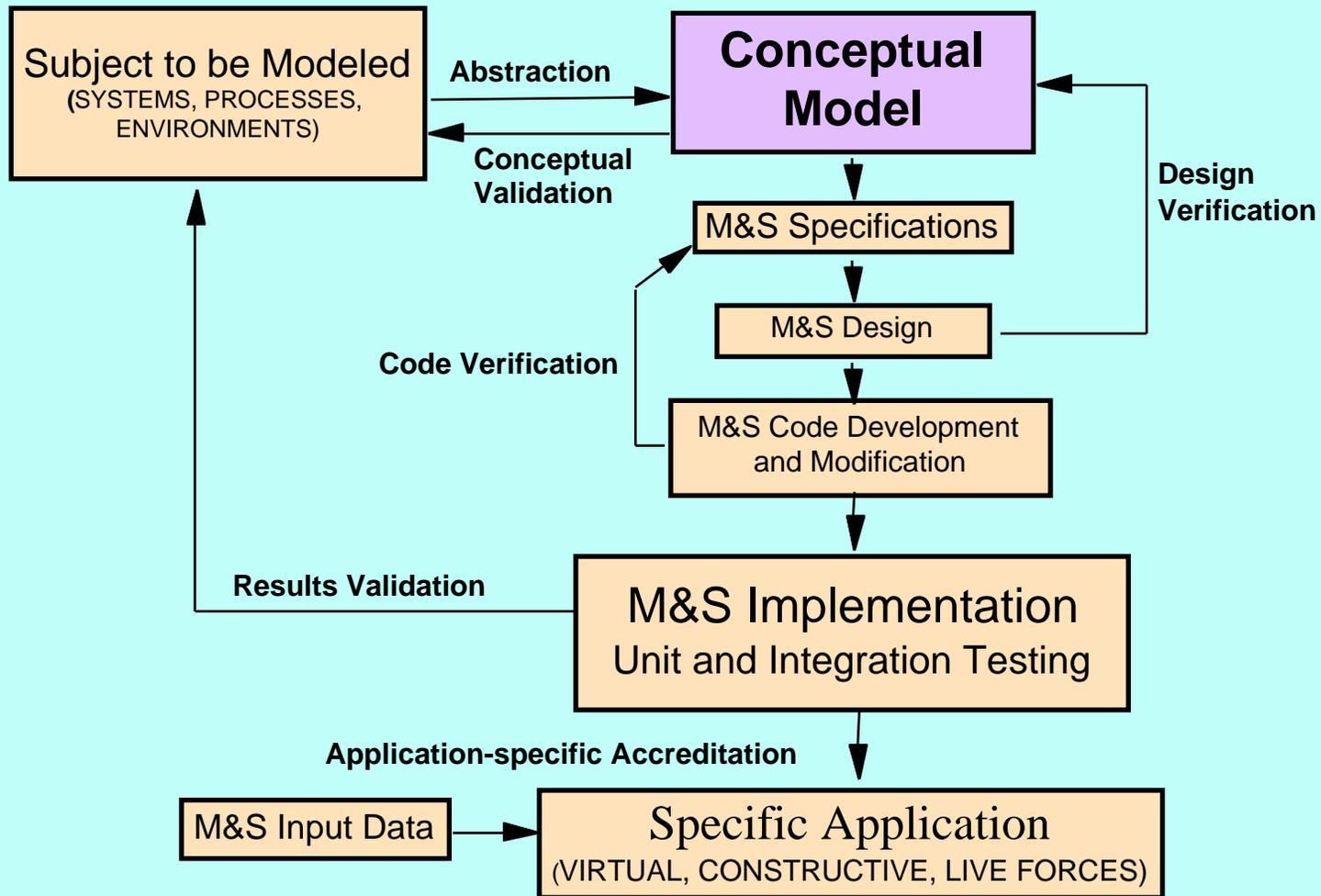


The JCOS Components and C4I Relationship





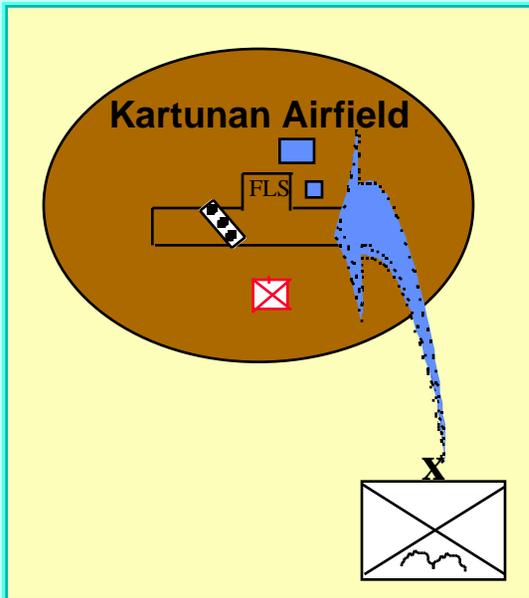
JCOS VV&A Process



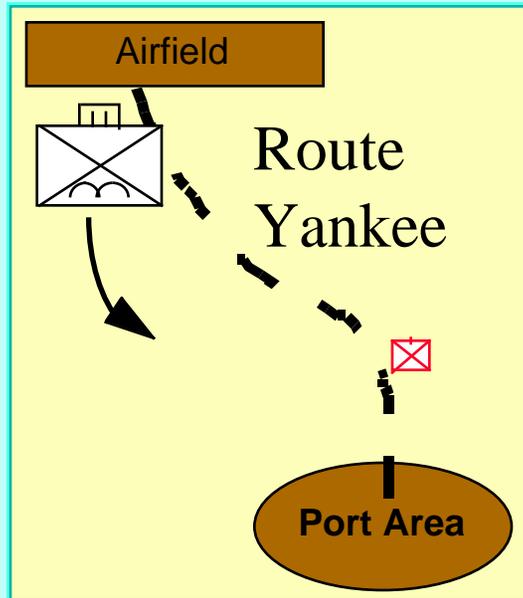


ARFOR Scenarios Heavy and Light Force Operations

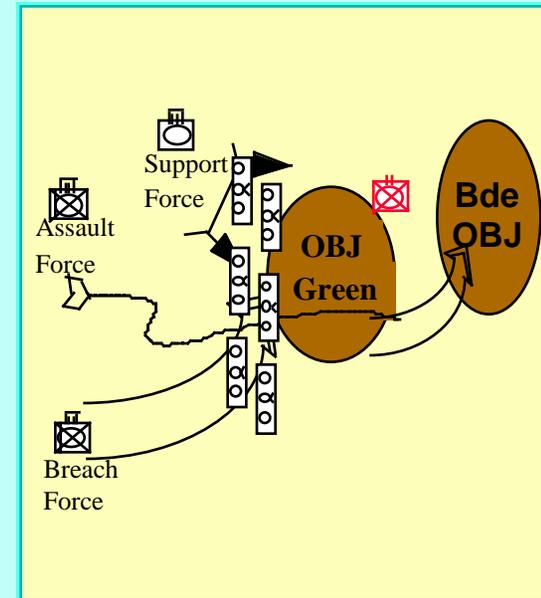
Light Force Airfield Seizure



Light Force Route Clearance



Heavy Force Border Breach



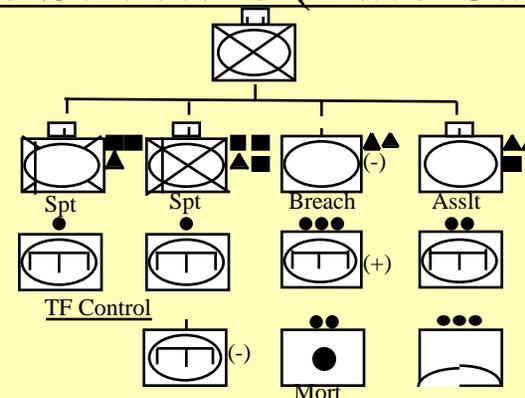


Simulation Support Planning

Essential Elements of Analysis

1. What are the threats to force mobility?
2. What is the impact of ASTAMIDS?
3. What is the impact of ASTAMIDS/ESMB?
4. What is the impact of MMCM?
5. What is the impact of Grizzly?
6. What is the survivability of each system?

Force Structure (Base Case)



Measures of Effectiveness

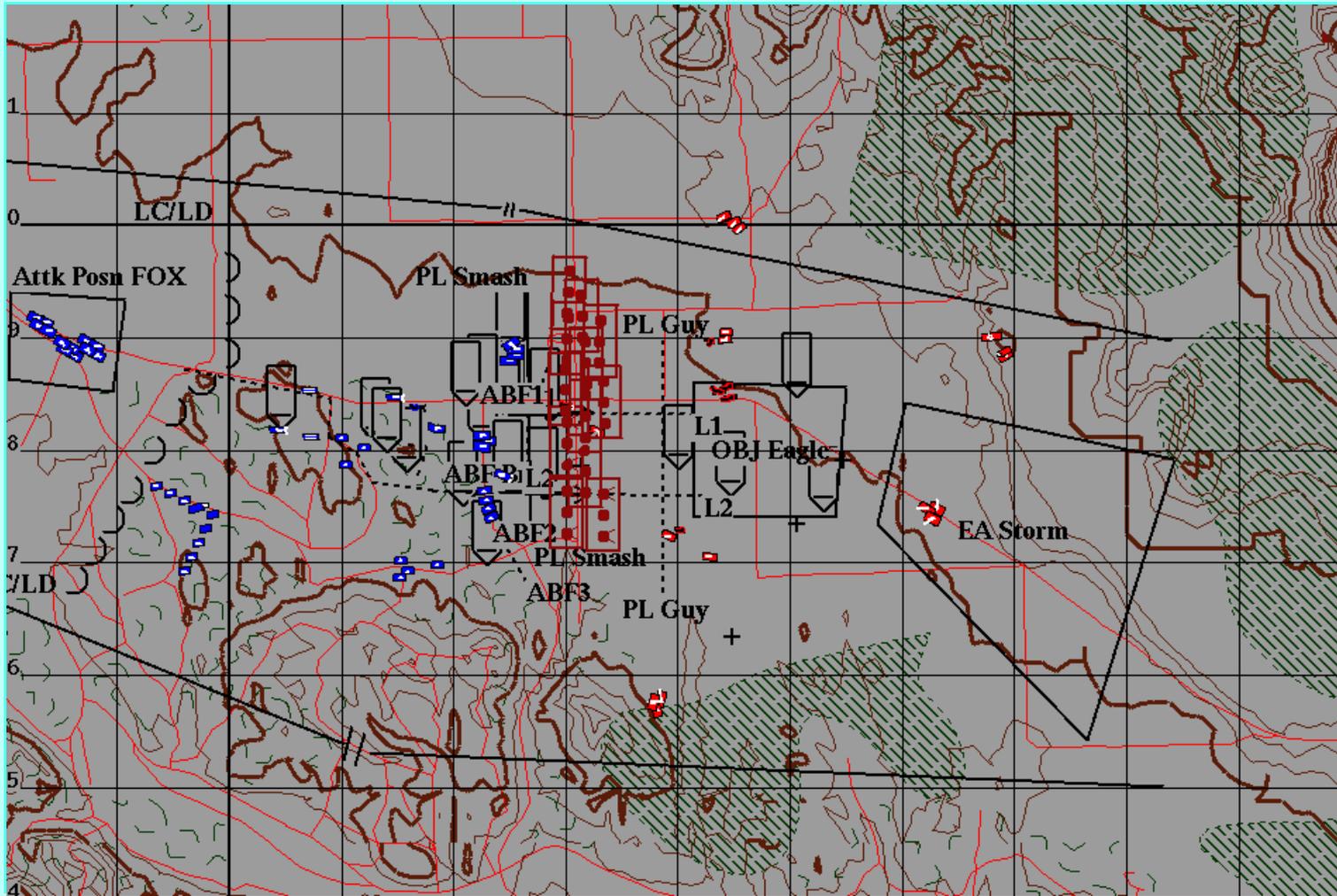
1. Time to conduct aerial recon
2. Percent of minefields detected
3. Number of breached lanes created
4. Time to bypass or breach obstacles
5. Countermine system survivability
6. Time to reach attack objective
7. Bn TF survivability

Analysis Runs Matrix

	Force Threat			
	MRC		MRC(+Scat)	
	Mine Laydowns			
	I	II	I	II
Base case	4	4	4	4
Novel case1		4		4
Novel case2	4	4	4	4

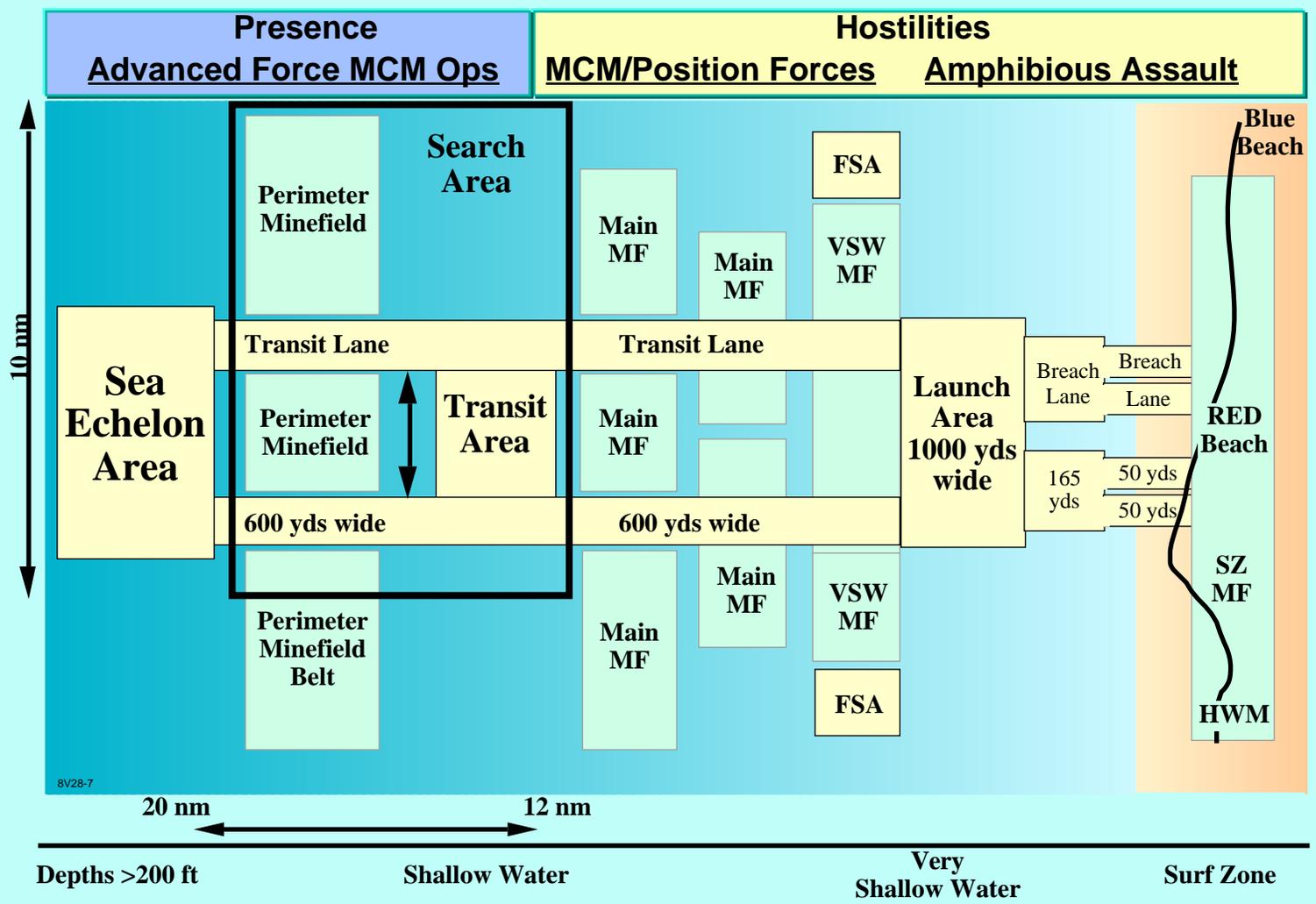


Army Heavy TF Attack Base Case Scenario (Legacy Systems)



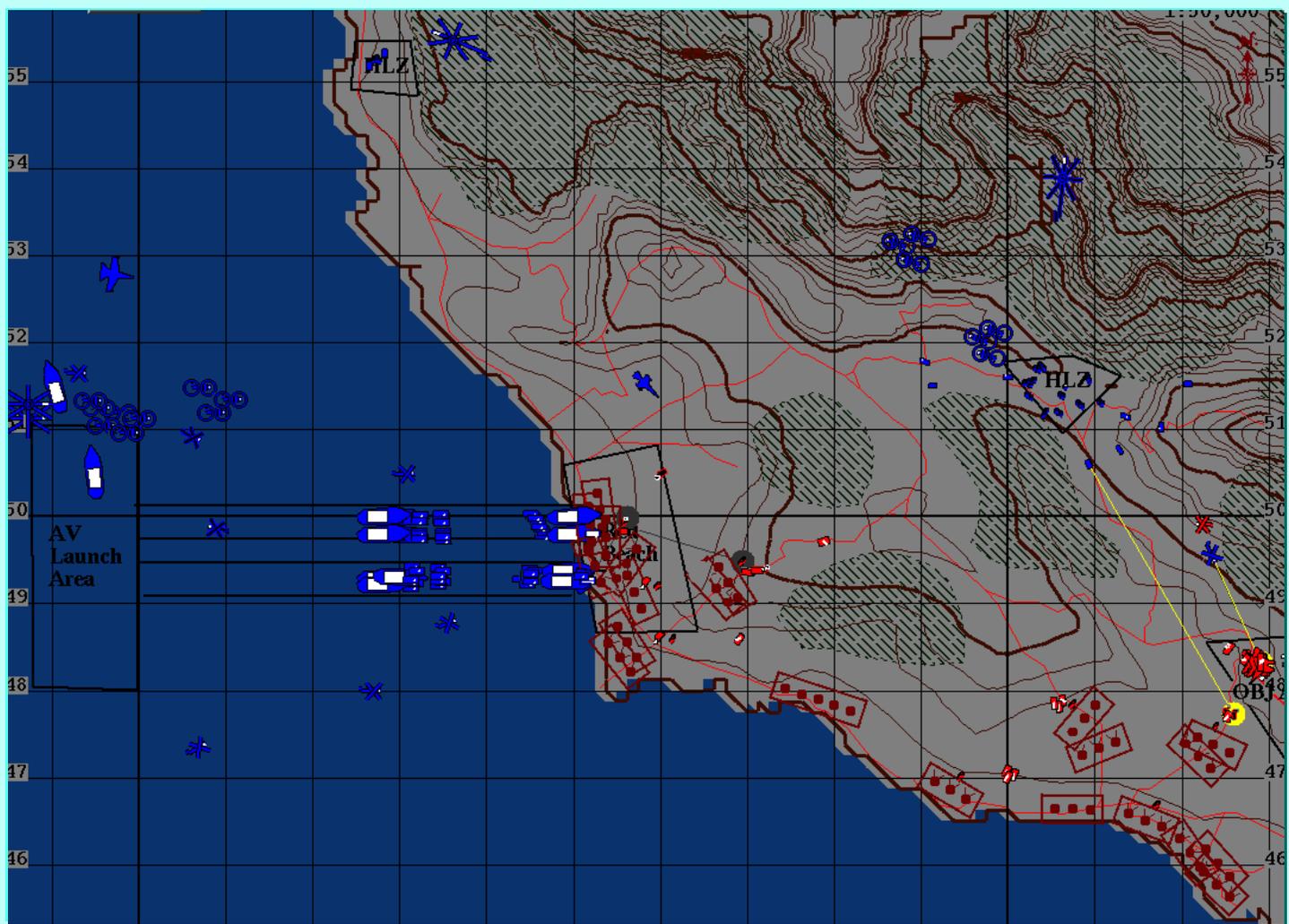


NAVFOR/MARFOR Scenario Presence/Hostilities Phases



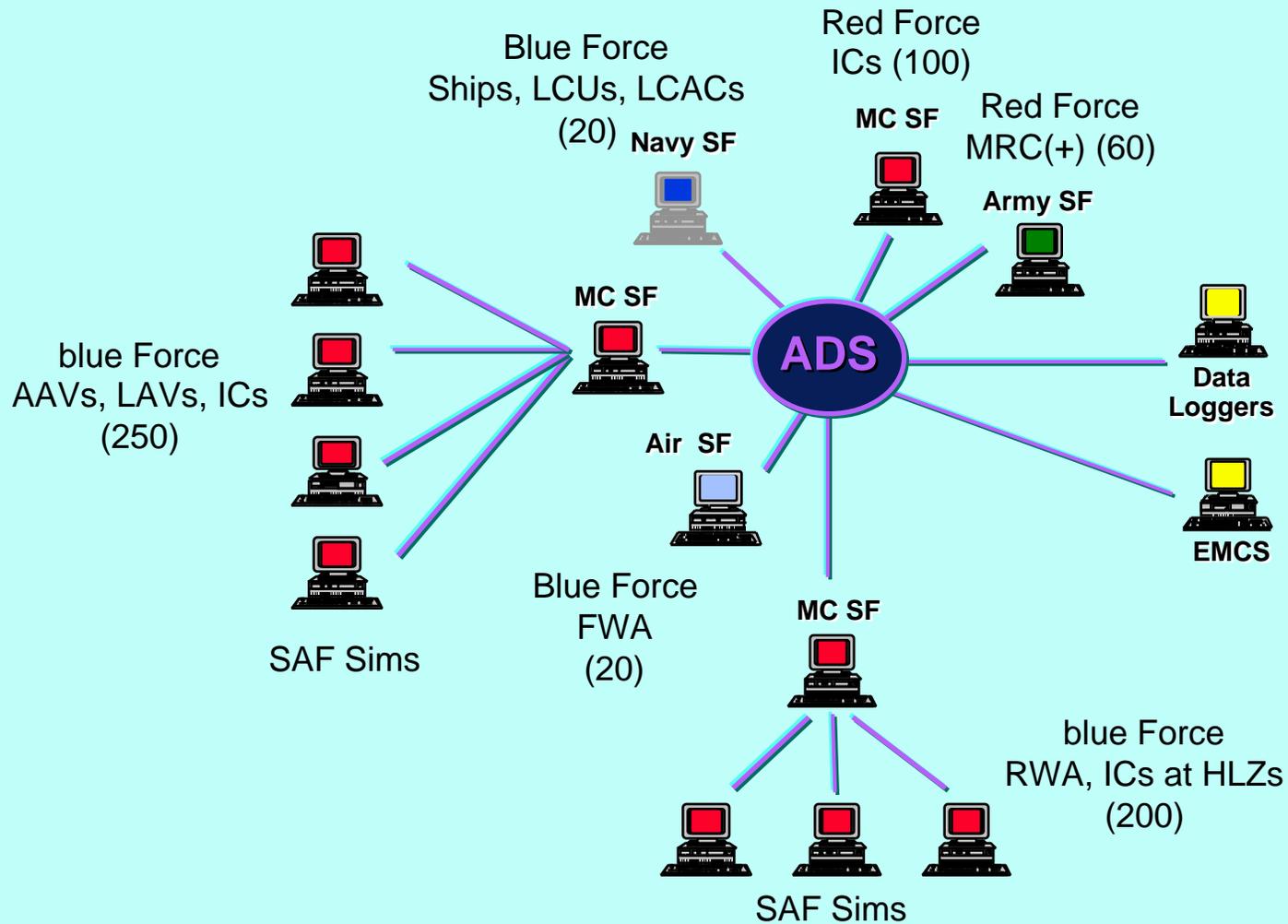


Amphibious Assault Simulation





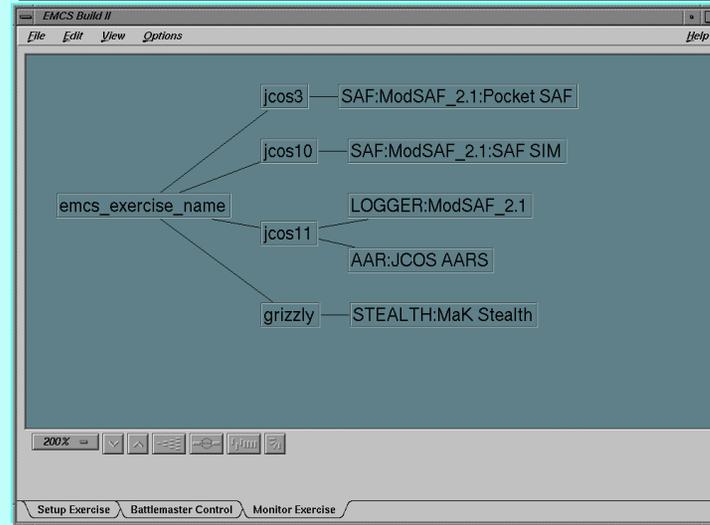
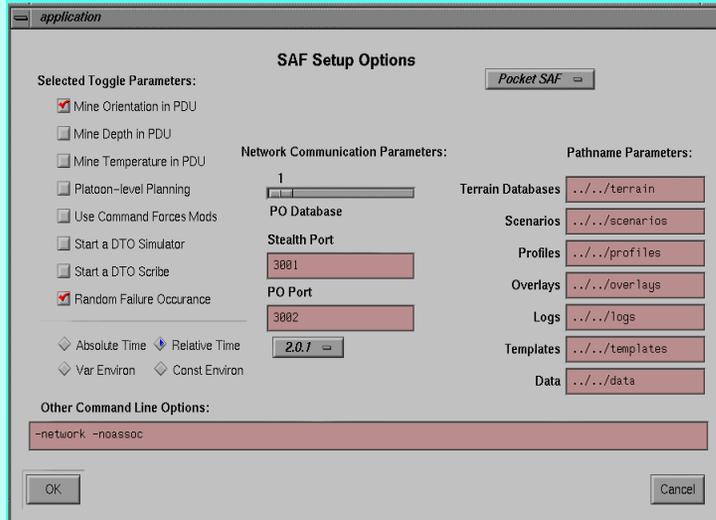
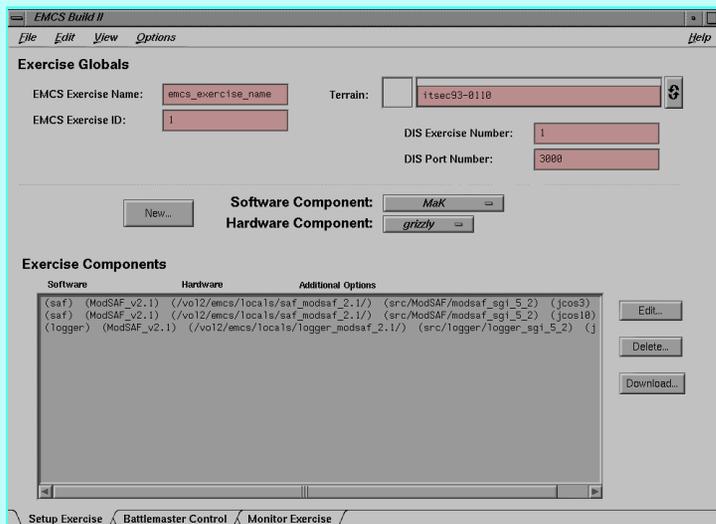
ADS Federation Regimental Landing Team Scenario





Exercise Management and Control System Functions

- Set-up Exercise
- Set-up Simulations
- Monitor Exercise
- Control Exercise
- Save Configuration





The JCOS AARS Functions Enabled in Netscape 3.0 Browser



0 Exercise Planning and Preparation



0 Data Extraction



0 Performance Evaluation



0 Data Analysis

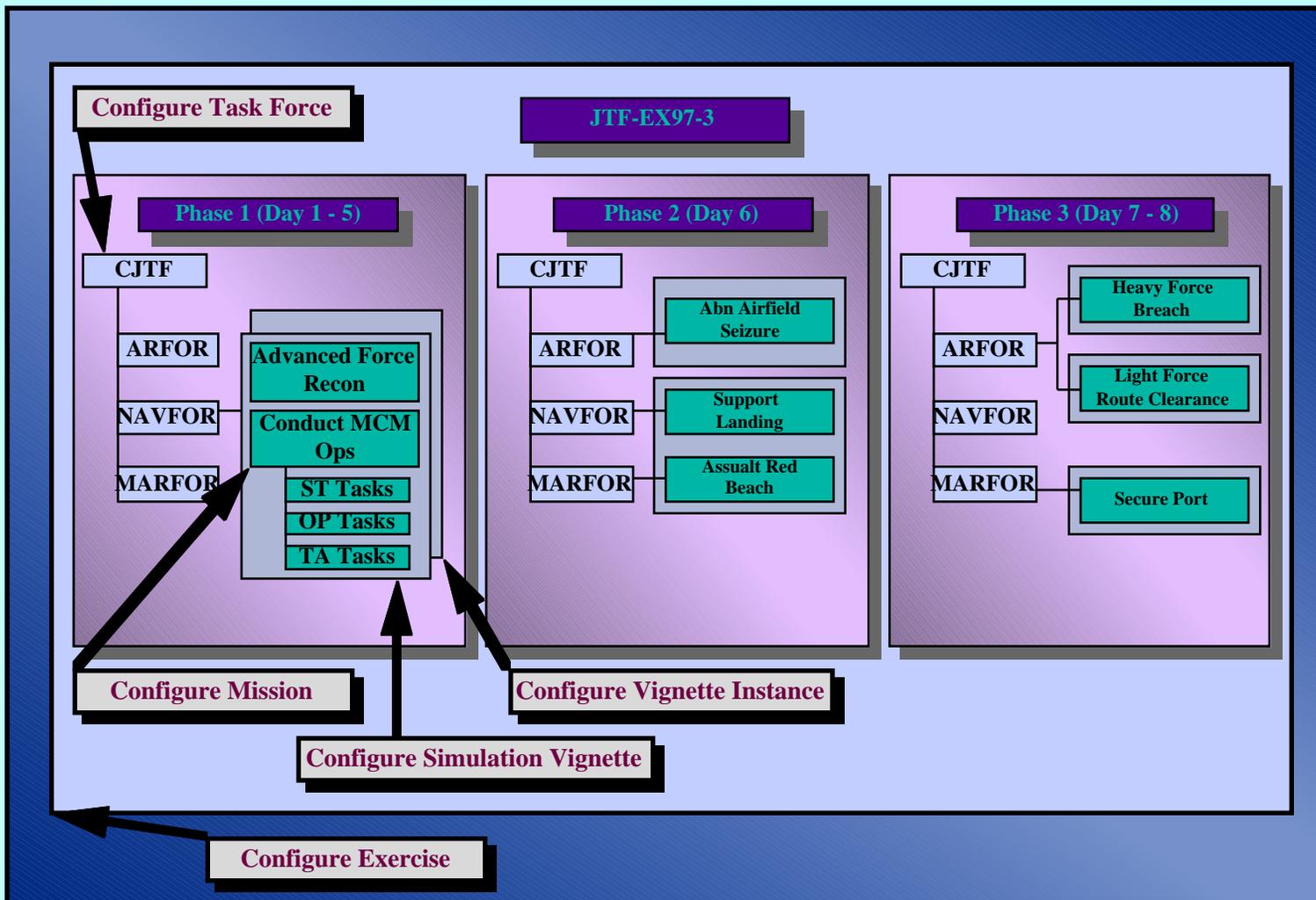


0 Observer/Controller

Others
Data Dictionary
Presentation
Administration

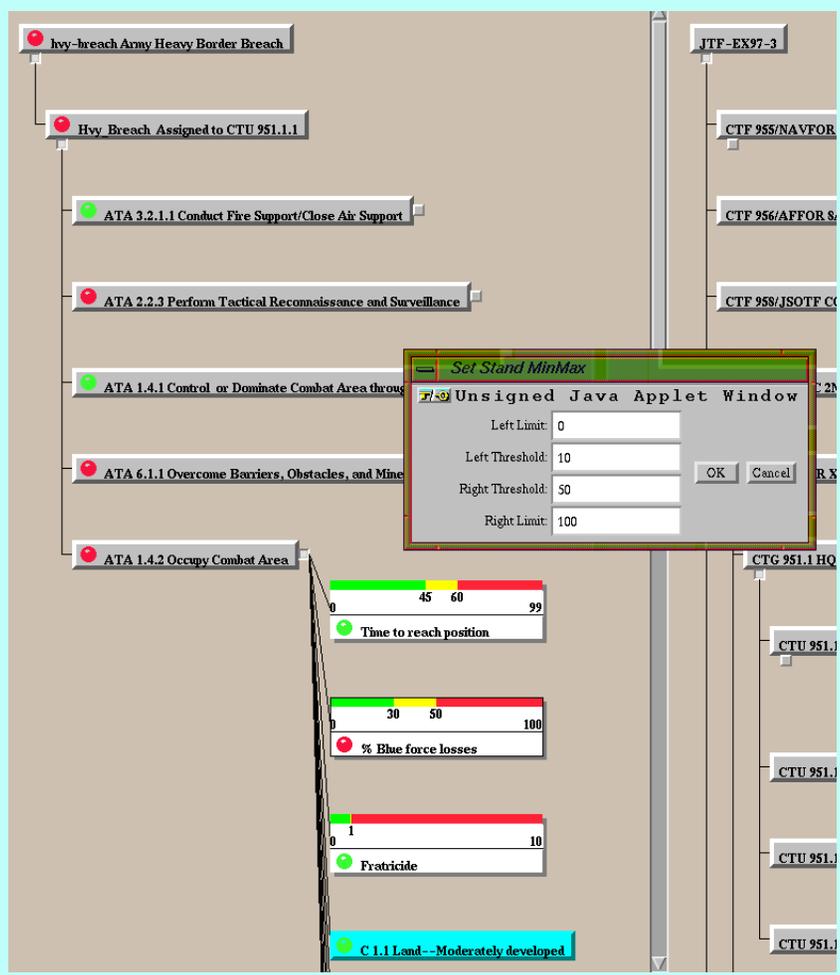


Exercise Preparation and Planning



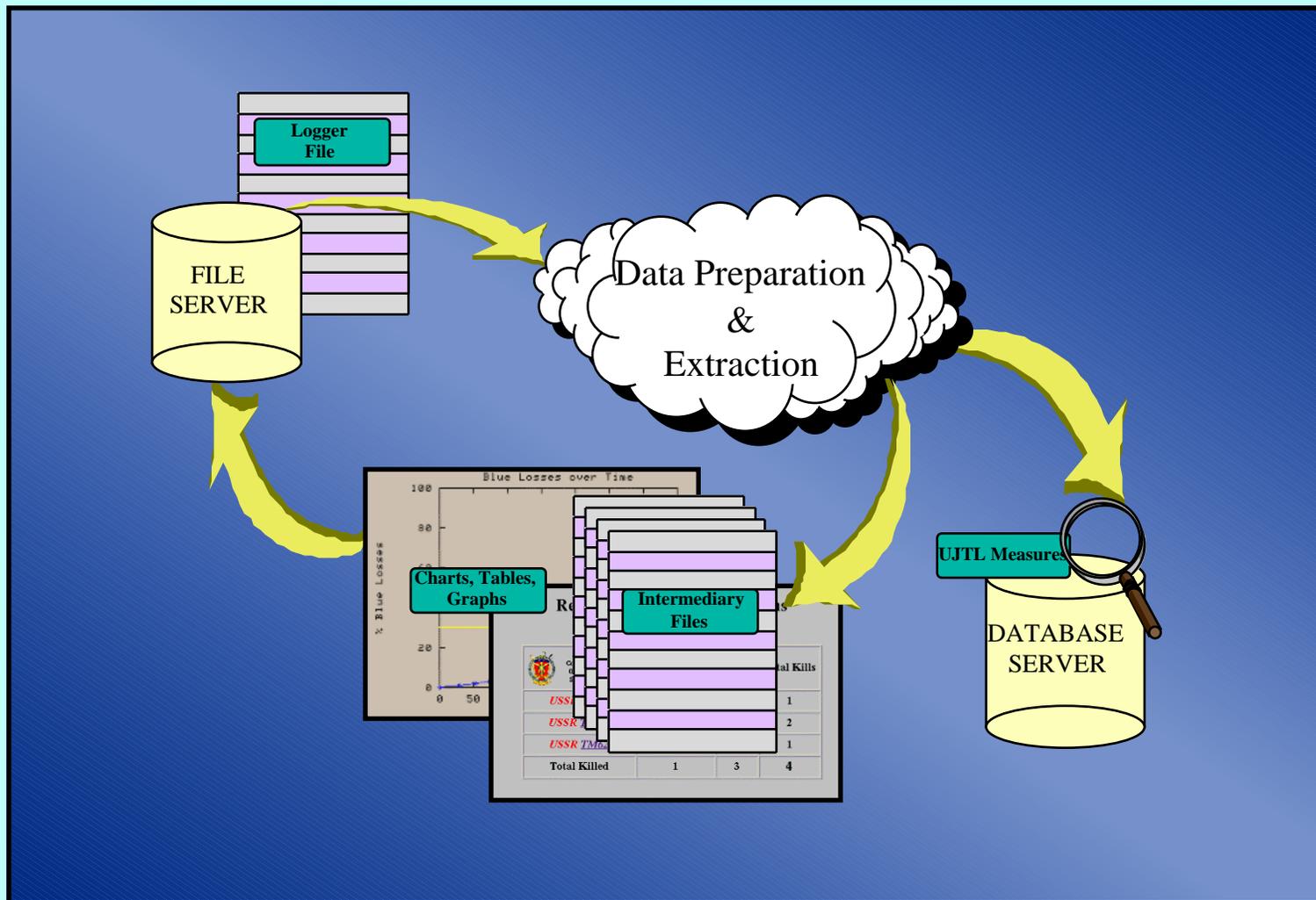


Vignette Instance



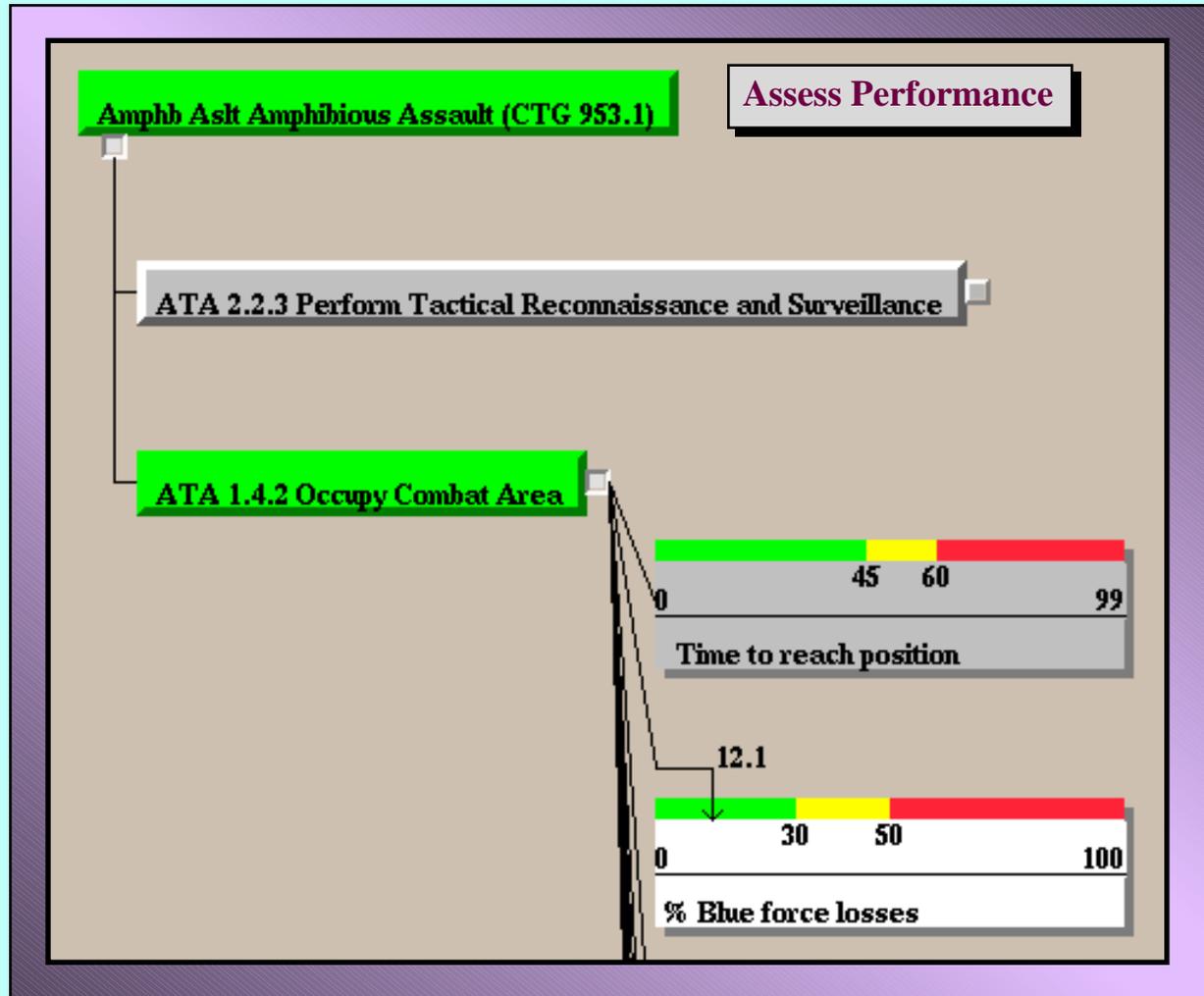


Data Preparation and Extraction





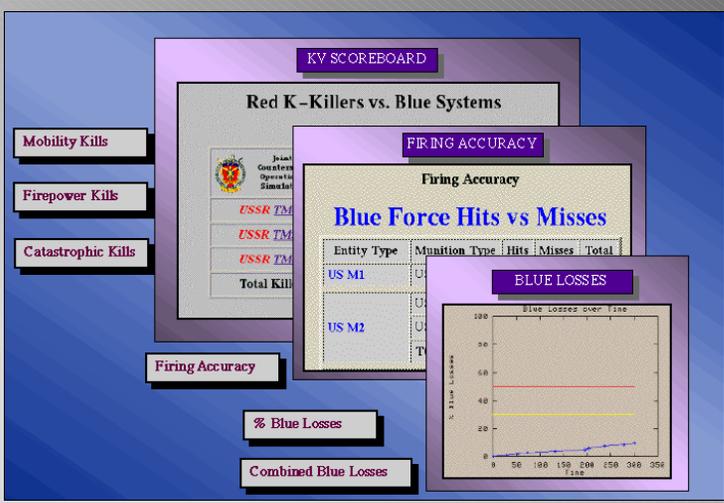
Performance Assessment





Data Analysis

STANDARD ANALYSIS

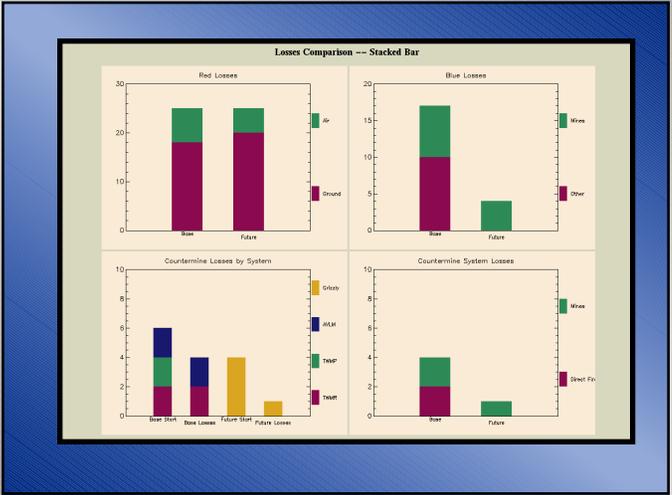


CUSTOMIZED ANALYSIS

Losses -- Side-By-Side Bar

Losses -- Stacked Bar

Combined Losses Over Time





Observer-Controller

PVD

Tactical Overlay

Logger Controls

Time: 18:16:4

Start Time: 18:15:46

End Time: 18:20:54

Entity Type List

- USSR T72M
- US M2
- US TOW
- USSR BMP1
- US M1
- US M60
 - 8
 - 82
- USSR Sagger
- USSR BRDM2
- USSR 2S19
- US F16C
- US M1064
- US M113 engineer

The screenshot displays a tactical simulation interface. At the top, a 'PVD' (Player View Display) window shows a map with various units and terrain. A 'Logger Controls' panel is overlaid on the map, featuring playback controls and time selection fields. To the right, a 'Tactical Overlay' window shows a zoomed-in view of the map. Below the tactical overlay is an 'Entity Type List' window, which lists various military units and their counts. The list includes: USSR T72M, US M2, US TOW, USSR BMP1, US M1, US M60 (with sub-items 8 and 82), USSR Sagger, USSR BRDM2, USSR 2S19, US F16C, US M1064, and US M113 engineer. The number '6' is visible in the bottom right corner of the tactical overlay window.



Advanced Distributed Simulation Demonstration Summary

